sensorswitch

WALL SWITCH DECORATOR SENSOR - SEMI-AUTOMATIC, DUAL TECHNOLOGY (PDT)

WSD-PDT-SA Series

Manual On - Auto Off

The *WSD-PDT-SA (Semi-Automatic) Series* is a Passive Dual Technology Wall Switch Sensor that comes factory set to be Manual On - Auto Off. It is ideal for applications where having a sensor automatically turn on lights is not desired. Instead, a simple press of the button is required to turn the lights on. It is also the ideal solution for situations where the sensor is installed in a location where it can view outside the room. This situation causes the sensor to trigger when a person walks by the door. The Semi-Automatic feature solves this issue by requiring the button to be pushed to turn on the lights. Besides Manual On operation, several other On Modes and Switch Modes can be programmed into the sensor using the front push-button.

TYPICAL APPLICATIONS

- Private Offices where occupant turns back to sensor
- Conference Rooms
- Storage Rooms with Shelving

FEATURES

- Patented Dual Technology with PIR/Microphonics™ Detection
- Auto Sensitivity Adjustment (AGC)
- Self Contained Relay, no Power Pack needed
- Interchangeable Hot & Load wires
- Small Motion Detection up to 20 ft.
- Manual On or Auto On selectable
- Intrinsically Grounded
- No Minimum Load
- Push-Button Programmable
- Time Delay: 30 sec. to 20 minutes
- Green LED Activity Indicator

AVAILABLE OPTIONS

- Vandal-Resistant Lens (-V)
- Photocell Daylight Override (-P)
- Low Temp/Hi Humidity (-LT)

SPECIFICATIONS

- Size: 4.2” H x 1.8” W x 1.5” D (10.67cm x 4.57cm x 3.81cm)
- Sensor Weight: 5 Ounces
- Colors: Ivory, White, Gray, Almond
- Mounting Height: 30 to 48 inches
- Relative Humidity: 20 to 90% non-condensing
- Operating Temp: 14º to 85º F (-10° to 29° C)
- Storage Temp: -14º to 160º F (-26° to 71° C)
- Load Rating (1 phase only):
  120 VAC @ 800 W
  277 VAC @ 1200 W
  347 VAC @ 1500 W
- Frequency: 50/60 Hz (Timers are 1.2 x for 50 Hz)
- UL, CUL, & CSA Listed
- CA Title 24 Compliant
- 5 Year Warranty
- Made in U.S.A.

LOW TEMP/HI HUMIDITY(-LT)

- Conformally coated Circuit Board is corrosion resistant from moisture
- Operates down to -4º F (-20°C)

SENSOR OPERATIONS

Sensors with Passive Dual Technology (PDT) first “See” motion using Passive Infrared (PIR) and then engage Microphonics™ to “Hear” sounds that indicate continued occupancy. This patented technology uses Automatic Gain Control (AGC) to dynamically self adapt a sensor to its environment by filtering out constant background noise and detecting only noises typical of human activity. If the push-button is pressed (when in Manual On mode) or if occupancy is detected (when in Automatic On mode), a self-contained relay switches the lighting “On”. The sensor is line powered and can switch line voltage (see specifications). An internal timer, factory set at 10 minutes, keeps the lights “On” during brief periods of no activity. This timer is push-button programmable from 30 seconds to 20 minutes, and is reset every time occupancy is re-detected. Once the timer expires and the lights turn “Off”, a 10 second grace period allows the lights to be voice reactivated.

OPERATIONAL MODES

On Modes (*Default)

Automatic On - The sensor automatically turns the lights on when the sensor detects occupancy.

Manual On (Semi-Automatic)* - The occupant must press the sensor’s button to turn the lights on.

Reduced Turn-On - The sensor is set to initially only detect large motions, effectively ignoring any reflected PIR signals while still sensing occupants when they enter the room. Once on, the sensor returns to maximum sensitivity.

Switch Modes (*Default)

Predictive Off - Pressing the switch overrides the lights off and temporarily disables the occupancy detection. After an exit time delay (default 10 seconds) the occupancy detection reactivates and monitors for an additional grace period time (default 5 seconds). If no occupancy is detected during this period, the sensor will revert to Automatic On operation. If occupancy is detected, the sensor will remain in Permanent Off mode requiring the switch to be pressed again in order to restore the sensor to Automatic On.

Permanent Off*- Pressing the push-button switch will turn the lights off. The lights will remain off regardless of occupancy until the switch is pressed again, restoring the sensor to Automatic On mode.

Switch Disable - Prevents user from manually turning off the lights via the push-button.

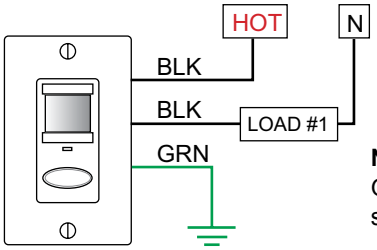
Model Numbering System: WSD-PDT-SA-[LENS]-[PHOTOCELL]-[VOLTAGE]-[COLOR*]-[TEMP/HUMIDITY]

MODEL #	LENS	PHOTOCELL	VOLTAGE	COLOR	TEMP/HUMIDITY
WSD-PDT-SA	Blank = Standard Lens -V = Vandal Resistant	Blank = No Photocell -P = w/Photocell	Blank = 120-277 VAC -3 = 347 VAC**	-I = Ivory -W = White -G = Gray -A = Almond	Blank = 14º to 85º F -LT = -4º to 85º F

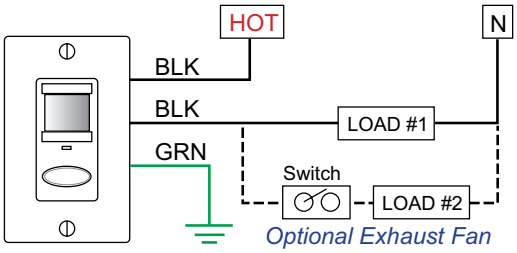
**347 V: Plate not provided

*Must specify color

TYPICAL WIRING DIAGRAM (DO NOT WIRE HOT)



Note: Connection to Ground required for sensor to function!



Optional Exhaust Fan

Note: Black is replaced with a Red wire for 347 VAC.

WIRING TO A LIGHT AND A FAN

One of the sensor's Black wires connects to the Hot (Line) power feed. The sensor's other Black wire connects to the Light and the Toggle Switch controlling the Exhaust Fan. The sensor's Green wire connects to Ground. When the sensor is in the Occupied Mode, the Exhaust Fan may be overridden Off by the Toggle Switch.

Note: Standard 2-gang plate not included

PHOTOCELL DAYLIGHT OVERRIDE OPTION (WSD-PDT-SA-P)

The *WSD-PDT-SA* offers a Photocell Daylight Override option (-P) for spaces with abundant natural light. Ideal for public places with windows like vestibules, corridors, or bathrooms; this option inhibits the lights from turning on if there is sufficient daylight available. Once the lights turn on, however, the photocell function is disabled until the sensor's occupancy timer expires and turns the lights off. For more information on daylighting control, see the CM-PC-ADC technical data information.

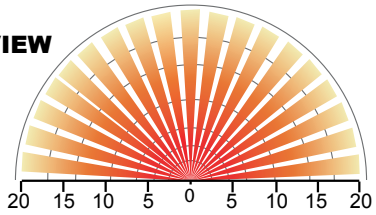
10 SECOND GRACE PERIOD FOR MANUAL ON MODE When the sensor times out, turning off the lights, the PIR detector remains active for 10 seconds to allow the occupant to move and automatically turn the lights back on. After 10 seconds, the button must be pressed to activate the lights.

AREA OF COVERAGE

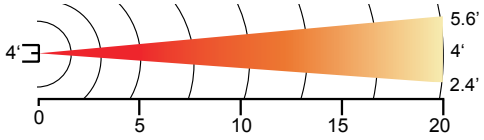
The PIR collector beams view out horizontally in a wall-to-wall pattern. The beams will see out to 50 feet, however, their effectiveness in the *Standard* product is 20 feet for small hand or body motions and 10 feet for the *Vandal Resisitant* products. The Microphonics™ will detect normal human activity up to 20 feet, but will detect greater distances in spaces with hard floors or very quiet rooms with little or no background noise.

FIELD OF VIEW

TOP VIEW



SIDE VIEW



STANDARD vs. VANDAL RESISTANT LENS

The Standard lens provides maximum PIR detection sensing small movements up to 20 feet, and large motions up to 50 feet. This lens should be used in typical offices or rooms where occupants work for extended periods of time. The Vandal Resistant lens should be used in high abuse or public areas, where occupants simply come and go and make larger types of motions. Copy rooms, small public restrooms, storage or janitor's closets are ideal applications. The PIR detection is reduced by 50%, however the Microphonics™ work the same.

WARNING

Fire Hazard Caution: Maximum Lamps 1500 Watts, Type 347 VAC.
Attention: Risque d'incendie : Pauissance Maximales Des Lampes 1500 Watts, Type 347 VAC.
Warning: The units are intended to be installed by a qualified person with properly rated branch circuit protectors as per applicable local and national regulations (CEC, NEC).

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